

Fact Sheet



For Final Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on November 5, 2019.

Permit Number: **R30-05100125-2019**
Application Received: **January 21, 2020**
Plant Identification Number: **03-54-051-00125**
Permittee: **MarkWest Liberty Midstream & Resources, L.L.C.**
Facility Name: **Majorsville Gas Plant**
Mailing Address: **1515 Arapahoe Street, Denver, CO 80202-2137**

Permit Action Number: *MM01* Revised: *October 30, 2020*

Physical Location: Dallas, Marshall County, West Virginia
UTM Coordinates: 540.95 km Easting • 4,423.83 km Northing • Zone 17
Directions: From Dallas, head south on Dallas Pike Road toward Dallas Street. Turn right onto Number 2 Ridge Road (1.4 mi), turn left onto Warton Hill Road (341 ft), take the first right to stay on Warton Hill Road (2.6 mi), turn right onto Calis Majorsville Road (0.2 mi), destination is on the right.

Facility Description

The permittee owns and operates the Majorsville Gas Plant. The facility has a capacity of 1,500 million standard cubic feet per day (mmscf) of wet natural gas. The plant is used as a gathering station for gas wells throughout southwest Pennsylvania and West Virginia. Upon entering the plant, the gas is sent through a molecular sieve which is designed to remove liquids from the gas stream. Heaters are used to regenerate the molecular sieve on a regular basis to remove the water and hydrocarbons. After the molecular sieve, the gas will be cooled through a cryogenic plant with mechanical refrigeration which serves to remove propane and heavier hydrocarbons in the gas stream. The natural gas liquids from the new plant then pass through a stabilizer to remove any carryover methane and ethane in the liquid stream.

The remaining gas stream (mostly methane and ethane) passes through the de-ethanizers, so that ethane can be separated and recovered from the gas stream. The ethane is then transferred via pipeline to market. The remaining natural gas will pass through the existing compressor engines or one of the electric driven compressors prior to entering the downstream pipeline to market. Electric pumps are located on site to transfer the recovered liquids to another facility for disposal or further processing.

This modification incorporates changes from R13-2818I to replace three (3) emergency generators with different models, change the waste/purge gas flow rate permit limit for Flare FL-1991, and incorporate USEPA Consent Decree requirements.

R13-2818J was submitted to provide more clarity to some of the existing permit conditions. There is no increase in emissions associated with this Class I administrative update request.

Emissions Summary

This modification results in the following emission changes:

Pollutant	Change in Potential Emissions (tons/year)
NO _x	-0.31
CO	-0.24
VOC	-0.16
PM ₁₀ /PM _{2.5}	7.10
SO ₂	-0.45
Total HAPs	-0.01

Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 117.62 TPY of NO_x and 116.54 TPY CO. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, MarkWest Liberty Midstream & Resources L.L.C. is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR13	Construction/modification permits
	45CSR16	Standards of Performance for New Stationary Sources
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement
	45CSR34	Emission Standards for HAPs
	40 C.F.R. 60 Subpart Db	NSPS for Steam Generating Units after June 19, 1984
	40 C.F.R. 60 Subpart Dc	NSPS for Small Steam Generating Units after June 9, 1989
	40 C.F.R. 60 Subpart IIII	NSPS for Stationary Compression Ignition Internal Combustion Engines

40 C.F.R. 60 Subpart OOOO	NSPS for Crude Oil & Natural Gas Facilities after August 23, 2011, and on or before September 18, 2015
40 C.F.R. 63 Subpart ZZZZ	Reciprocating Internal Combustion Engine MACT

State Only: None.

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

The active permits/consent orders affected by this modification are as follows:

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2818I	April 21, 2020	
R13-2818J	July 20, 2020	
Civil Action No. 3:18-cv-2526	January 9, 2019	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

There were 2 R13 permit issued during this modification R13-2818I and R13-2818J.

The following changes were made during this minor modification:

Section 1.1. Emission Units

- Since Emergency Generator M7-G-8 had not been installed and there are no current plans to install this engine, it was removed from the emission units table.
- The Majorsville 7 MCC Emergency Generator M7-G-9 was not initially installed and has since been changed to a Cummins C35D6 engine that was in the Title V Permit as M7-G-9*. With the issuance of R13-2818I emission unit M7-G-9* is now M7-G-9.
- The DeEthanizer 2 Control Room Emergency Generator MD2-G-10 was not initially installed and has since been changed to a Cummins C15D6 engine that was in the Title V Permit as MD2-G-10*. With the issuance of R13-2818I emission unit MD2-G-10* is now MD2-G-10.
- The DeEthanizer 2 Emergency Generator MD2-G-11 was not initially installed and will be replaced by a Cummins C35D6 engine.
- Compressor C-121 was listed as being in inlet gas service. This compressor is actually in residue gas service.

Section 3.0 Facility-Wide Requirements

- Corrected typo in condition 3.1.9.
- Added condition 3.1.13 to reflect the addition of R13 condition 4.1.6.

Section 4.0 Engines and Emergency Generators

- Removed Emission Unit M7-G-8 and its Emission Point 28E from the section header.
- Removed Emission Units M7-G-8 and M7-G-9 from Condition 4.1.4 along with their footnotes.
- Removed Emission Unit MD2-G-10 from Condition 4.1.6 along with its footnote.
- Removed Emission Unit MD2-G-11 from Condition 4.1.7 along with its footnote.
- Added Conditions 4.1.8 and 4.1.9 to include the emission limits for Emission Units M7-G-9, MD2-G-10, and MD2-G-11.
- Renumbered condition 4.1.10 (previously 4.1.8). Also removed footnote about Emission Units M7-G-8 and MD2-G-11 not being installed. M7-G-8 has been removed from the permit and MD2-G-11 has now been installed.
- Removed the compliance plan in Condition 4.6.1. R13-2818I corrected the information for engines M7-G-9 and MD2-G-10.

Section 5.0 Heaters

- In Condition 5.1.1. added the table footnotes detailing which heaters are subject to the NSPS Subpart Db: H-1782, H-D2782; and subject to NSPS Subpart Dc: H-781, H-3781, H-4781, H-7781 and H-4782. Heaters H-741, H-2741, H-3741, H-4741, H-5741, H-6741, and H-7741 are less than 10 MMBtu/hr and not subject to either Subpart Db or Dc. Heaters H-1741 and H-D2741 are process heaters per Subpart Dc and are not subject to Subpart Dc.
- Updated the citations for Condition 5.1.1, 5.1.3, 5.1.7 (previously 5.1.4) to correspond to changes made in R13-2818I.
- Added Condition 5.1.4, since this condition was added into the R13 permit with the issuance of R13-2818I. This condition identifies Heaters (H-781, H-3781, H-4781, H-7781, H-1741, H-D2741, H-4782) as being subject to 40 C.F.R. 60 Subpart Dc. With the issuance of R13-2818J heater H-1741 and H-D2741 were removed from condition 5.1.4 because they are process heaters per 40CFR60 Subpart Dc and are not subject to this requirement.
- Added Conditions 5.1.5 and 5.1.6, since these conditions were added into the R13 permit with the issuance of R13-2818I. The new condition 5.1.5 contains the NO_x limits and standard of 40 C.F.R. §60.44b(a), (h), and (i) which had previously been included in the Title V permit as conditions 5.1.6, 5.1.7, and 5.1.8.
- Renumbered conditions 5.1.7 and 5.1.8 (previously 5.1.4 and 5.1.5).
- Conditions 5.1.6, 5.1.7, and 5.1.8 of the old Title V were removed since they are redundant with the addition of condition 5.1.5.
- Added Conditions 5.2.4 and 5.2.5, since they are conditions added into the R13 permit with the issuance of R13-2818I. Condition 5.2.4 is the monitoring requirement of 40 C.F.R. 60 Subpart Db. Condition 5.2.5 is the predictive emissions monitoring system requirement for H-1782 and H-D2782.
- Removed old condition 5.3.2 because after updating old condition 5.3.3 with the new requirements of R13-2818I condition 6.1.8 and maintaining the requirements of 40 C.F.R. §60.46b(e)(4) it became redundant. The updated 5.3.3 condition was renumbered as 5.3.2. This condition pertains to the testing requirements of 40 C.F.R. 60, Subpart Db.
- Added Condition 5.3.3, since it is a condition added into the R13 permit with the issuance of R13-2818I. This condition is for CEMS or PEMS testing for heaters (H-1741 and H-D2782).
- Added Condition 5.4.1 requiring the monitoring and recordkeeping of the amount of natural gas consumed in all heaters on a monthly and twelve month rolling total basis.
- Renumbered 5.4.2 – 5.4.6 (previously 5.4.1 – 5.4.5) and updated the citation of Condition 5.4.2.
- Updated condition 5.4.4. to include the Subpart Db and Dc recordkeeping requirements in R13-2818J condition 6.1.4.
- Removed the footnote on Conditions 5.2.3, 5.4.3, 5.4.4, 5.4.5, 5.4.6, 5.5.2, 5.5.3, 5.5.4, and 5.5.5 because the compliance date has passed.

Section 6.0. Flares

- Updated Condition 6.1.10 to incorporate changes made to the underlying R13 permit condition with the issuance of R13-2818I.

Section 8.0 40 C.F.R. 60 Subpart IIII and 40 C.F.R. 63 Subpart ZZZZ Requirements

- Removed Emission Unit M7-G-8 and its Emission Point 28E from the section header.
- Updated Condition 8.1.1 to reflect the removal of emission unit M7-G-8 and the correction of emission units M7-G-9, MD2-G-10, and MD2-G-11.
- Removed Emission Unit M7-G-8 and associated footnote from Condition 8.1.9. Also removed footnote for Emission Unit MD2-G-11.
- Removed Emission Unit M7-G-8 and associated footnote from Condition 8.3.5. Changed reference from MD2-G-10* to MD2-G-11.

Section 10.0 Reserved.

- Majorsville is under a USEPA consent decree filed on January 9, 2019 for Leak Detection and Repair (LDAR) and 40 C.F.R. 60, Subpart Db violations. The facility is in the process of adding NO_x PEMS on the two 119.2 MMBtu/hr hot oil heaters (H-1782 and H-D2782). Majorsville is required to switch LDAR from KKK to OOOO for affected facilities. Therefore, Section 10.0 40 C.F.R. 60 Subpart KKK Requirements – Majorsville I & II was removed, and the section reserved in the permit. The units are now subject to 40 C.F.R. 60 Subpart OOOO.

Section 11.0 40 C.F.R. 60 Subpart OOOO Requirements – Majorsville I – VI, De-ethanizer I

- Updated the section header since Majorsville I & II are now subject to 40 C.F.R. 60 Subpart OOOO.
- Updated R13 permit citations in the section due to renumbering in R13-2818I.
- All references to Majorsville III-VI now reference Majorsville I-VI.

Section 12.0 40 C.F.R. 60 Subpart OOOOa Requirements – Majorsville VII, De-ethanizer II

- Updated R13 permit citations in the section due to renumbering in R13-2818I.

Section 14.0. Additional Requirements

- Section 14.0 was added to incorporate applicable requirements of the Consent Decree (CD) filed on January 9, 2019, in the United States District Court Northern District of Ohio (Civil Action No. 3:18-cv-2526). The requirements include:
 - Incorporating leak detection and repair requirements at an affected facility under New Source Performance Standard (NSPS) Subpart OOOO.
 - MarkWest HMO heaters will be subject to NSPS Subparts Db and Dc as appropriate. For the heaters subject to Db the EPA has granted MarkWest permission to use a Predictive Emission Monitoring System (PEMS), as described in the CD, rather than a Continuous Emission Monitoring System (CEMS) per the regulation. The PEMS system is required to show continuous compliance with the NO_x limit of 0.10 lb/MMBTU (MarkWest used 0.03 lb/BTU for H-1782 & H-2782 NO_x PTE which is the manufacturer guarantee). Heater fuel usage at the site will be recorded to comply with the Dc Heaters.
 - Heaters subject to NSPS Subpart Db are: H-1782, H-2782
 - Heaters subject to NSPS Subpart Dc are: H-781, H-3781, H-4781, H-7781, H-1741, H-D2741, H-4782.
 - Pilot-Operated Modulating Pressure Relief Valves (PORVs) and applicable LDAR monitoring requirements.
- There are several references to compliance to NSPS Subpart OOOO being achieved within 180 days, this should be listed as no later than 18 months per the Consent Decree. The Consent Decree gives more time for compliance to facilities that had been subject to the NSPS Subpart KKK. Whereas part

of Majorsville was subject to KKK it is specifically listed in Section V. Injunctive Relief, as having 18 months to comply with the requirements in the Consent Decree. At this time MarkWest is compliant with NSPS Subpart OOOO but wishes to avoid potential penalty for the period of time between 180 days and 18 months when MarkWest was not required to be in compliance with these provisions of the Consent Decree.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

40 C.F.R. 60 Subpart KKK – Majorsville is under a USEPA consent decree filed on January 9, 2019 for LDAR and NSPS Subpart Db violations. The facility is in the process of adding NO_x PEMS on the two 119.2 MMBtu/hr hot oil heaters. Majorsville is required to switch LDAR from 40 C.F.R. 60 Subpart KKK to OOOO for affected facilities.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: Not Applicable for minor modifications.
Ending Date: N/A

Point of Contact

All written comments should be addressed to the following individual and office:

Robert Mullins
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 41286 • Fax: 304/926-0478
Robert.A.Mullins@wv.gov

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

Not applicable.